

IN THE CLAIMS

This is a complete and current listing of the claims, marked with status identifiers in parentheses. The following listing of claims will replace all prior versions and listings of claims in the application.

1. (Currently Amended) A biosensor operating on an electrochemical detection principle, comprising:

~~_____ and having a transducer array, containing which contains~~
a flexible metal/isolator composite composed of a metal layer ~~(1, 10_±)~~ and an isolator layer ~~(2, 20_±)~~ with a permanent connection between the metal surface and the isolator surface,

~~_____ characterized in that~~

~~_____ the metal layer being~~is in the form of a self-supporting metal substrate ~~(1, 10_±)~~ and ~~is being~~ structured in such a manner that metal areas which are electrically isolated from one another are produced,

~~_____ the isolator (2, 20_±) which is,~~ located on the metal substrate, ~~(1, 10_±) is being~~ structured in such a manner that open metal surfaces remain as sensor surfaces ~~(12_±)~~ in the isolator surface ~~(2, 20_±), and in that wherein,~~

~~_____ the structured metal areas (1, 10_±) can be made~~
~~contact~~are contactable with, on the a side facing away from or opposite the sensor surface, ~~(12_±) by means of discrete electrodes (WE, CE, Ref), in which case the individual metal areas (1, 10_±) may each have including associated individual measurement electrodes (WE, CE) on the one hand and at least one reference electrode (Ref) on the other hand.~~

2. (Currently Amended) The electrochemical biosensor as claimed in claim 1, ~~characterized in that wherein~~ the isolator layer ~~(2)~~ forms cavities ~~(3_±)~~ over the sensor surfaces ~~(11_±)~~.

3. (Currently Amended) The electrochemical biosensor as claimed in claim 1 ~~or claim 2, characterized in that~~ wherein electrical contacts ~~(4a, b, c)~~ are provided, with the contacts ~~(4a, b, c)~~ and the sensor surfaces ~~(12_±)~~ being located on opposite sides of the metal/isolator composite ~~(1, 2)~~.

4. (Currently Amended) The electrochemical biosensor as claimed in claim 3, ~~characterized in that~~ wherein the contacts ~~(4a, b, c)~~ are fitted to the metal areas ~~(11_±)~~, which are exposed on both sides, directly opposite the sensor surfaces.

5. (Currently Amended) The electrochemical biosensor as claimed in claim 3, ~~characterized in that~~ wherein the contacts ~~(4a, b, c)~~ are fitted to the metal areas ~~(11_±)~~, which are exposed on one side, such that they are laterally offset with respect to the sensor surfaces.

6. (Currently Amended) The electrochemical biosensor as claimed in ~~one of the preceding claims, characterized in that~~ claim 1, wherein a single sensor surface ~~(101_±)~~ contains at least two electrically isolated metal areas.

7. (Currently Amended) The electrochemical biosensor as claimed in claim 6, ~~characterized in that~~ wherein gaps which form additional isolator areas ~~(40_±)~~ are formed between the two metal areas ~~(10_±)~~ on the contact side.

8. (Currently Amended) The electrochemical biosensor as claimed in claim 7, ~~characterized in that~~ wherein the additional isolator areas ~~(40_±)~~ leave metal areas ~~(10_±)~~ free for electrical contact to be made.

9. (Currently Amended) The electrochemical biosensor as claimed in ~~one of the preceding claims, characterized in~~

~~that~~claim 1, wherein the sensor surfaces ~~(12_i)~~ are composed of a noble metal or a noble metal alloy.

10. (Currently Amended) The electrochemical biosensor as claimed in ~~one of the preceding claims, characterized in that~~claim 1, wherein the sensor surfaces ~~(12_i)~~ are coated with a noble metal or a noble metal alloy.

11. (Currently Amended) The electrochemical biosensor as claimed in ~~one of the preceding claims, characterized in that~~claim 1, wherein electrodes are provided on a graphite base, ~~for example in the form of a carbon paste electrode.~~

12. (Currently Amended) The electrochemical biosensor as claimed in ~~one of the preceding claims, characterized in that~~claim 1, wherein at least one of the sensor surfaces ~~(12_i)~~ is coated with silver/silver chloride.

13. (Currently Amended) The electrochemical biosensor as claimed in ~~one of the preceding claims, characterized in that~~claim 1, wherein an electrolyte is provided and wets a plurality of sensor surfaces ~~(12_i)~~.

14. (Currently Amended) The electrochemical biosensor as claimed in ~~one of the preceding claims, characterized in that~~claim 1, wherein at least two sensor surfaces ~~(12_i, 12_{i+1})~~ can have voltage ~~applied~~ applied to them.

15. (Currently Amended) The electrochemical biosensor as claimed in claim 1, wherein~~one of the preceding claims, characterized in that~~ at least two sensor surfaces, ~~(12_i, 12_{i+1})~~ and one sensor surface ~~(12_k)~~ ~~which is coated with silver chloride,~~ can be connected are connectable as a three-electrode arrangement to a potentiostat ~~(5)~~, with the sensor surface

~~(12_k)~~ which is coated with silver chloride being the reference electrode.

16. (Currently Amended) The electrochemical biosensor as claimed in claim 1, ~~wherein one of the preceding claims,~~ ~~characterized in that~~ a separate reference electrode ~~(15)~~ is provided, and is immersed in an electrolyte.

17. (Currently Amended) The electrochemical biosensor as claimed in claim 16, ~~characterized in that~~ wherein at least two sensor surfaces ~~(12_i, 12_{i+1})~~ and the separate reference electrode ~~(15)~~ can be connected are connectable to a potentiostat ~~(5)~~.

18. (Currently Amended) The electrochemical biosensor as claimed in claim 16, ~~characterized in that~~ wherein the electrically isolated metal areas ~~(10_i, 10_{i+1})~~ with sensor surfaces ~~(12_i, 12_{i+1})~~ can have have voltage applied applicable to them.

19. (Currently Amended) The electrochemical biosensor as claimed in claim 16, ~~characterized in that~~ wherein the electrically isolated metal areas ~~(10_i)~~ of one sensor surface ~~(12_i)~~ and the reference electrode ~~(15)~~ can be connected are connectable as a three-electrode arrangement to a potentiostat ~~(5)~~.

20. (Currently Amended) The electrochemical biosensor as claimed in claim 1, ~~wherein one of the preceding claims,~~ ~~characterized in that~~ the cavities ~~(3_i)~~ contain biochemical identification layers.

21. (Currently Amended) The electrochemical biosensor as claimed in claim 1, ~~wherein one of the preceding claims,~~

~~characterized in that~~ the electrolyte areas in individual cavities ~~(3_±)~~ are isolated from one another.

22. (Currently Amended) The electrochemical biosensor as claimed in claim 21, ~~characterized in that~~wherein a separate metal surface closes the cavities ~~(3_±)~~.

23. (Currently Amended) The electrochemical biosensor as claimed in claim 1, wherein~~one of the preceding claims,~~
~~characterized in that~~ the sensor surfaces ~~(12_±)~~ ~~can~~ have a voltage ~~applied~~applicable to them with respect to the additional metal surface.

24. (Currently Amended) The electrochemical biosensor as claimed in claim 1, wherein~~one of the preceding claims,~~
~~characterized in that~~ one additional sensor surface is provided per cavity ~~(3_±)~~ and is used as a reference electrode.

25. (Currently Amended) The electrochemical biosensor as claimed in claim 1, wherein~~one of the preceding claims,~~
~~characterized in that~~ the metal surface which closes the cavities ~~(3_±)~~ is coated with silver chloride and is used as a reference electrode.

26. (Currently Amended) The electrochemical biosensor as claimed in claim 1, wherein~~one of the preceding claims,~~
~~characterized in that~~ the sensor surfaces ~~(12_±)~~ have high catalytic activity.

27. (Cancelled)

28. (Cancelled)

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29. (New) The electrochemical biosensor as claimed in claim 1, wherein electrodes are provided on a graphite base, in the form of a carbon paste electrode.